

(FILE 'HOME' ENTERED AT 16:26:45 ON 26 APR 2001)

FILE 'USPATFULL' ENTERED AT 16:26:50 ON 26 APR 2001

L1 66 S (GENERAT? OR CREAT?) (P) ROUT? (P) TABLE? (P) DOMAIN#
L2 85 S AUTOMATI? (P) (CREAT? OR GENERAT?) (P) (ROUT### (3A) TABLE?)
L3 1145 S DOMAIN# (3A) NAME#
L4 17213 S MAIL# OR EMAIL# OR ELECTRONIC? (2A) MAIL# OR E-MAIL#
L5 876 S DIRECTOR? (4A) SERVER#
L6 368 S L5 AND L4
L7 81 S L6 AND L3
L8 1 S L2 AND L7

=> s l1 and l7

L9 5 L1 AND L7

=> s l8 or l9

L10 6 L8 OR L9

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L8 1 S L2 AND L7
L9 5 S L1 AND L7
L10 6 S L8 OR L9

=> s 17 or 12

L11 165 L7 OR L2

L5 ANSWER 2 OF 4 USPATFULL

PI US 6199062 20010306

AB A method of hierarchical LDAP wildcard searching in an LDAP directory service having a relational database management system (DBMS) as a backing store. The relational database normally includes a forward index of the character strings in the database. The method begins by generating a reverse index of the character strings in the relational database. Depending on the position of one or more wildcards in the string, the forward index, the reverse index, or both indices, are used to generate the relational database query.

DETD . . . database using any type of query (and not merely hierarchical, filter-based database queries). When the invention is implemented within an **LDAP directory** service having a relational database management system (DBMS) as a backing store, the service takes advantage of several LDAP table structures. Further details about these structures (as well as the SQL SELECT statements used by the LDAP/DB/2 search **routines**) are provided in U.S. Ser. No. 09/050,503, titled "A Fast And Efficient Method To Support Hierarchical LDAP Searches With Relational. . .

DETD . . . invention wherein potentially both the forward and reverse indices are applied to different portions of the same search string. The **routine** begins at step 80 by creating the forward and reverse indices. This process has been described and illustrated above in. . . reverse index is continually updated as new character string entries are created in the forward index. At step 82, the **routine** runs a test to determine if an LDAP query has been received from the **LDAP directory** service. If not, the **routine** cycles. If, however, the outcome of the test at step 82 is positive, the **routine** continues at step 84 (assuming the existence of a wildcard in the search string) to determine whether the wildcard is at a leading edge of the search string. If so, the **routine** branches to step 86 and (using the reverse index) generates a reversed search string. The reversed search string is then. . . If, however, the outcome of the test at step 84 indicates that the leading character is not a wildcard, the **routine** continues at step 90 to count the number of characters leading the wildcard and the number of characters trailing the. . .

L5 ANSWER 3 OF 4 USPATFULL

PI US 6167449 20001226

AB A computer-implemented method and apparatus for identifying and locating computer network services. The invention gives an application the ability to search for network services in a manner independent of the network communication protocol used by the network. The invention can thus operate as a layer of abstraction between the Transport and Network Layers and the Application Layer of the Open Systems Interconnect (OSI) Reference Model of network architecture and suite of protocols. The invention gives the client application the ability to browse for network services based on the type of service (such as remote file access, mail, Web, domain name registration, etc.), rather than having to know the name or location of the service or the underlying network communication protocol used by the service. Some of the contemplated service name identification protocols used to find the requested types of services

include Internet-related protocols such as Domain Name Service (DNS) and Lightweight Directory Access Protocol (LDAP), as well as Service Location Protocol (SLP), running on top of the Transport Control Protocol/Internet Protocol (TCP/IP).

DETD . . . on several different combinations of SIPs running over different network protocols. For example, SIP server 124 can be a Lightweight **Directory** Access Protocol (**LDAP**) server running on TCP/IP, SIP server 126 can be a Service Location Protocol (SLP) server running on Internet Packet Exchange/Sequenced. . . also running on TCP/IP. Thus, the different SIP servers can reside in different networks connected to each other using a **router** 152, as shown in FIG. 1, and communicate with interface 120 using their different identification and network protocols. Other network. . .

L10 ANSWER 2 OF 6 USPATFULL

PI US 5920697 19990706

AB In an electronic messaging system which has multiple sites, and in which each site is defined by a unique address space and has connectivity to at least one other site, messages are sent by receiving at a first site message routing information from a second site. The message routing information defines routes from the second site to one or more of the plurality of sites. The received message routing information is assimilated into previously known routing information to generate an updated accumulation of routing information. The updated accumulation of routing information is used to route messages to one or more of the plurality of sites. The updated accumulation of routing information may be replicated to still other sites in the messaging system, which in turn assimilate the information into their respective collections of known routing information. This process of receiving, assimilating and replicating may be repeated until each of the sites has substantially the same updated accumulation of routing information.

SUMM The invention relates to the updating and use of routing information in an **electronic mail** ("**e-mail**") messaging environment.

SUMM A typical **e-mail** system as shown in FIG. 1 includes one or more interconnected servers 101 each serving one or more clients 103 (e.g., individual workstations). A client in turn may interact with an end-user--a human operator that seeks to use the **e-mail** system to communicate with other end-users, for example.

The collection of interconnected servers 101 and their respective clients 103 constitute. . . 105 (or "address space") which may communicate with one or more other sites. A site is delimited by a unique **e-mail** address space--that is, each server

L10 ANSWER 6 OF 6 USPATFULL

PI US 5867495 19990202

AB Telephone calls, data and other multimedia information is routed through a hybrid network which includes transfer of information across the internet utilizing telephony routing information and internet protocol address information. A media order entry captures complete user profile information for a user. This profile information is utilized by the system throughout the media experience for routing, billing, monitoring, reporting and other media control functions. Users can manage more aspects of a network than previously possible, and control network activities from a central site. Calling card access is provided for users and supports typical calls as well as media transfers over the hybrid network including over the internet.

DRWD FIG. 41 is a diagrammatic representation of a **server directory** structure used with the logon of FIG. 40 in accordance with a preferred embodiment;

DRWD FIG. 80 illustrates a configuration of a switching network offering voice **mail** and voice response unit services, as well as interconnection into a service provider, in accordance with a preferred embodiment;

DETD 4. **Email** Forwarding to a Fax Machine

DETD 4. Video **Mail** Server

DETD E. Recording Video-**Mail**, Store & Forward Video and Greetings

DETD F. Retrieving Video-**Mail** and Video On Demand

D

L7 ANSWER 20 OF 81 USPATFULL

PI US 6154738 20001128

AB Methods and apparatus for disseminating over the Internet product information produced and maintained by product manufacturers using existing universal product codes (bar codes) as access keys. A cross-referencing resource, which may take the form of an independent HTTP **server**, an LDAP **directory server**, or the existing Internet **Domain Name Service (DNS)**, receives Internet request messages containing all or part of a universal product code and returns the Internet address at which information about the identified product, or the manufacturer of that product, may be obtained. By using preferred Web data storage formats which conform to XML, XLS, XLink, Xpointer and RDF specifications, product information may be seamlessly integrated with information from other sources. A "web register" module can be employed to provide an Internet interface between a shared sales Internet server and an otherwise conventional inventory control system, and operates in conjunction with the cross-referencing server to provide detailed product information to Internet shoppers who may purchase goods from existing stores via the

ability to access the sewer over the WAN.

L7 ANSWER 25 OF 81 USPATFULL

PI US 6131095 20001010

WO 9731490 19970828

AB A method of accessing a target entity over a communication network employs a distributed database system similar top the DNS of the Internet; indeed the DNS may be used as the required distributed database. The distributed database stores records, each associated with a corresponding **domain name** and holding communication data for use in accessing a target entity. Each of these **domain names** are related to a respective number string from which it can be derived by a process including parsing at least a substantial portion of the number string into at least a part of said **domain name**. Upon the input of a number indicative of a target entity, the related **domain name** is formed by parsing the number and the **domain name** is then used to retrieve the corresponding communication data from the DNS-type distributed database system. This data is then used in accessing the target entity. In one embodiment the communication network is a telephone network and the target entity is a called party; in this case, the number string comprises a dialed number and the retrieved communication data is a URI indicative of the location on the Internet of a current telephone number for the target party, the URI once retrieve being used to access the current telephone number over the Internet for use in setting up a call to the target party.

L7 ANSWER 43 OF 81 USPATFULL

PI US 6012088 20000104

AB An Internet access device uses an automatic configuration process to handle the task of configuring the Internet access device at a customer site for communication with the Internet. Once configured, the customer has **electronic mail** and other access to the Internet from his local area network. A not yet configured Internet access device is shipped directly to a customer without having to be manually configured first. The customer enters a registration identification number and a telephone number onto the Internet access device. The Internet access device then automatically connects to the Internet, downloads configuration data from a configuration server containing customer site specific configuration data, and then automatically configures itself for communication with the Internet. The Internet access device is simple to install for a customer and provides valuable features such as a router, firewall, **e-mail** gateway, web server, and other servers. The Internet access device initially connects to the Internet through an Internet service provider over a standard analog telephone line using a standard modem and using a dynamic IP address. Once automatically configured, the Internet access device may then communicate with the Internet using any suitable connection including an analog telephone line, or a higher-speed line such as an ISDN line or a frame relay circuit and is assigned a static IP address and a range of IP addresses for other devices on its local area network.

L8 ANSWER 1 OF 1 USPATFULL

PI US 5920697 19990706

AB In an electronic messaging system which has multiple sites, and in which each site is defined by a unique address space and has connectivity to at least one other site, messages are sent by receiving at a first site message routing information from a second site. The message routing information defines routes from the second site to one or more of the plurality of sites. The received message routing information is assimilated into previously known routing information to generate an updated accumulation of routing information. The updated accumulation of routing information is used to route messages to one or more of the plurality of sites. The updated accumulation of routing information may be replicated to still other sites in the messaging system, which in turn assimilate the information into their respective collections of known routing information. This process of receiving, assimilating and replicating may be repeated until each of the sites has substantially the same updated accumulation of routing information.

=> s new (3a) domain name#

975997 NEW
56280 DOMAIN
295088 NAME#
942 DOMAIN NAME#
(DOMAIN(W)NAME#)

L1 12 NEW (3A) DOMAIN NAME#

=> s updat? (5a) director? (3a) server?

102043 UPDAT?
22529 DIRECTOR?
26400 SERVER?

L2 48 UPDAT? (5A) DIRECTOR? (3A) SERVER?

=> s 12 and 11

L3 0 L2 AND L1

=> s 12 and domain nam###

56280 DOMAIN
609477 NAM###
1034 DOMAIN NAM###
(DOMAIN(W)NAM###)

L4 12 L2 AND DOMAIN NAM###

=> s 12 and 14

L5 12 L2 AND L4

=> d 1-12 pn,ab,kwic

L5 ANSWER 1 OF 12 USPATFULL

PI US 6243815 B1 20010605

AB A method for reconfiguring network security devices coupled to a network directory services server, the network directory services server providing network directory services to the network security devices, includes the steps of storing configuration data for a first network security device at a pre-determined directory location, copying the configuration data from the predetermined directory location to a directory used by the first network security device using the network directory services in response to a first reconfigure request, and updating configuration of the first network security device according to the configuration data in the directory used by the first network security device.

DETD . . . short of total security. Further, if this gateway does not support UDP, it cannot support native UDP traffic such as domain name service (DNS) and SNMP.

DETD In some embodiments, when configuration data from sub-directories 420 are updated, each firewall

server may be instructed to update its configuration data to reflect such updates. For example, if there is a new virus. . .

L5 ANSWER 2 OF 12 USPATFULL

PI US 6161008 20001212

AB A personal mobility system determines a terminal address corresponding to a called user based upon a personal identifier of the called user. The personal mobility system operates in conjunction with a plurality of heterogeneous networks to provide the terminal address corresponding to the called user, independent of the particular network within which the called user currently operates. The personal mobility system includes a personal mobility user application and a personal mobility server application. The personal mobility user application receives a request from a calling user, the request including the personal identifier of a called user. The personal mobility server application couples to the personal mobility user application and includes a plurality of user records. Each user record is respective to a user and is indexed by a respective personal identifier. Further, each user record includes a plurality of terminal records with each of the terminal records including a respective terminal address. The personal mobility server application accesses the user record for the called user based upon the personal identifier, selects a terminal record of the plurality of terminal records based upon the personal identifier, and returns a respective terminal address to the personal mobility user application. The user record may also include a network usage profile and a user profile for the user which are both employed in selecting the terminal identifier.

L5 ANSWER 3 OF 12 USPATFULL

PI US 6098108 20000801

AB When establishing a communication path between a client system and a server system which are coupled over a data network, the client system accesses distributed directory information in order to determine whether a communication path to the server computer can use an enhanced communication approach, such as an enhanced transport or application layer protocol, and to obtain an address of a second server system which will provide communication services needed to communicate using the enhanced communication approach. By using distributed information, and in particular by distributing the information at the server systems themselves, the invention reduces or eliminates the reliance on critical points of failure or congestion, such as a Internet **Domain Name Server (DNS)** or a centralized repository of information related to the enhanced communication.

AB . . . systems themselves, the invention reduces or eliminates the reliance on critical points of failure or congestion, such as a Internet **Domain Name Server (DNS)** or a centralized repository of information related to the enhanced communication.

SUMM . . . systems themselves, the invention reduces or eliminates the reliance on critical points of failure or congestion, such as a Internet **Domain Name Server (DNS)** or a centralized repository of information related to the enhanced communication.

DRWD FIG. 14 illustrates a client computer coupled over the Internet to a **Domain Name Server**, a list server, and a server LAN;

DETD . . . is performed. If the address is not found in either the in.sub.-- table or the out.sub.-- table, the redirector accesses **directory server 640 to update in.sub.-- table and out.sub.-- table (step 1022)**. If the address was found in the in.sub.-- table (step 1014), then a. . .

DETD Also coupled to Internet 1440 is a **domain name service (DNS) 1470** that provides a name resolution service for other computers coupled to it over the Internet. DNS 1470. . .

DETD . . . to retrieve the needed information from the server computer itself. If successful, network lookup 1640 provides the retrieved remote communication **server** information to **directory manager 1610**, which then both **updates** database 1620 and provides a response to LSM 1540.